

Appl. No. : 10/629,029
Filed : July 29, 2003

AMENDMENTS TO THE CLAIMS

Please cancel Claims 76-111 and 114 without prejudice.

Please amend Claims 112, 116 and 117.

Please add new Claims 118-120.

1-111. (Canceled)

112. (Currently amended) A sublimation apparatus for producing a vapor reactant for flowing through a reaction chamber, comprising:

a sublimation vessel;

a plurality of beds ~~[[bed]]~~ of solid source for the vapor reactant, ~~[[the]]~~ each solid source bed contained within the vessel and in the form of a solid powder;

a carrier gas guidance structure with which the solid source is directly in contact, the carrier gas guidance structure configured to guide ~~[[the]]~~ a carrier gas to contact the solid source for the vapor reactant by providing a substantially helical pathway for the carrier gas, wherein the carrier gas guidance structure comprises:

a plurality of stacked trays ~~partially defining levels,~~ each tray containing one of the beds of the solid source and confining the carrier gas to a single path from a tray inlet to a tray outlet, the single path defining one of a plurality of levels of the helical pathway, the carrier gas being in contact along the single path with the solid source in each tray;

a vessel inlet port located at the beginning of ~~a unitary contact~~ the substantially helical pathway provided by the carrier gas guidance structure; and

a vessel outlet port located at the end of the ~~unitary contact~~ substantially helical pathway provided by the carrier gas guidance structure,

wherein the carrier gas guidance structure is configured to ensure contact of the carrier gas with the solid source for the vapor reactant along the substantially helical pathway having a length greater than about 2.5 times a linear distance measured from the vessel inlet port to the vessel outlet port.

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113. (Previously presented) The sublimation apparatus according to Claim 112, wherein the guidance structure is a flow guide configured to extend from a sublimation vessel floor to a sublimation vessel ceiling.

114. (Canceled)

115. (Canceled)

116. (Currently amended) The sublimation apparatus according to Claim ~~[[115]]~~ 112, wherein the single path of at least one of the plurality of stacked trays ~~is a guided tray comprising~~ comprises at least one substantially circular pathway, the ~~guided tray~~ at least one substantially circular pathway being configured to guide the carrier gas at least one lap of at least about 200° around the ~~guided~~ tray before channeling the carrier gas through the tray outlet to the inlet of an adjacent tray.

117. (Currently amended) The sublimation apparatus according to Claim ~~[[115]]~~ 112, wherein at least one of the plurality of stacked trays ~~is a guided tray comprising~~ comprises a secondary partial divider which partially defines at least two substantially circular pathways of the single path in the guided tray, the secondary partial divider in combination with tray sidewalls being configured to guide the carrier gas about two laps around the ~~guided~~ tray before channeling the carrier gas to an adjacent stacked tray, each lap being at least about 200° around the ~~guided~~ tray.

118. (New) The sublimation apparatus according to Claim 117, wherein the two substantially circular pathways are configured to channel the carrier gas in substantially opposite directions relative to one another.

119. (New) The sublimation apparatus according to Claim 112, wherein the carrier gas guidance structure comprises a central inlet that extends from the vessel inlet port vertically through an aligned central channel of the upper tray to open into a channel compartment of a lowermost tray.

120. (New) The sublimation apparatus according to Claim 119, wherein the lowermost tray includes a partial divider that allows gas flow thereover.

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SUMMARY OF INTERVIEW

Identification of Claims Discussed

Claim 112.

Identification of Prior Art Discussed

U.S. Patent No. 4,883,362 to Gartner et al. ("Gartner") and U.S. Patent Publication No. 2004/0016404 to Gregg et al. ("Gregg").

Proposed Amendments

Applicants' representative, Mr. Adeel Akhtar, indicated that an amendment may be presented after final for clarification.

Principle Arguments and Other Matters

In a telephonic interview with the Examiner on January 30, 2006, Mr. Akhtar argued that Gregg does not meet the language of Claim 112 because the carrier gas of Gregg does not make contact with the precursor along a substantially helical pathway.

Results of the Interview

Applicants' agreed to present amendments and arguments.